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Vanasse Hangen Brustlin, Inc.

Kilton Road
Six Bedford Farms, Suite 607
Bedford, New Hampshire 03110-6532
603 644-0888
FAX 603 644-2385

Memorandum

To: Homestead Dam Feasibility Study Advisory Group

Date: July 22, 2004

Project No.: 51577.00

From: Peter J. Walker, CWS

Re: Progress Report

The following memorandum provides a synopsis of our team's progress on the Homestead Dam Feasibility Study as we move forward with the feasibility study over the summer months. We hope you find this information useful. Please do not hesitate to contact me or Stephanie Lindloff if you have any questions or want copies of any of our interim work products.

Survey & Modeling

As we've previously reported, our completion of the survey work in the river was substantially delayed due to high spring flows and concerns about safely conducting a survey from a boat when immediately upstream of the dam. Over the last month, however, we have been successful in completing our survey. This includes a complete topographic survey of the vicinity of the dam and the Thompson Covered Bridge, as well as several additional river "cross-sections" both upstream and downstream of the dam.

This survey has produced a highly detailed bathymetric map of a 600 foot portion of the river near the Homestead Dam. The new bathymetric mapping will be combined with our landward survey to create a detailed base map which will be helpful in developing the conceptual design for each of the project alternatives.

The several additional river cross-sections collected outside of the immediate dam vicinity will be useful to refine the "HEC-RAS" model that will help us predict how the river will respond under the various alternative scenarios. The survey information has been provided to Kleinschmidt Associates, who will complete a revised river model in the next few weeks. The model will allow us to accurately predict water levels and velocities at various points in the river with and without the dam in place.

Cultural Resources

Our team met in April and May with the NH Division of Historical Resources (DHR) to refine our approach to planned cultural resources studies. During this coordination, DHR requested that our research further document the historical development of the West Swanzey Village, including the various mill activities at the Homestead Woolen Mill site. In particular, although it is known that the Village is potentially eligible for listing as a Historic District on the National Register of Historic Places, the precise boundaries of the potential district are not known. DHR requested that our work focus on determining recommended boundaries of this district.

We completed extensive research and field work and developed a draft "Project Area Form." This document is nearly 100 pages in length and contains a history of the Village from the early 18th

century to the present. It reports an inventory of approximately 150 properties within the West Swanzey Village area in an effort to identify the potential historic district boundaries and to identify structures that contribute to the historic district. And, the document makes recommendations regarding the criteria under which the village district is eligible for listing. The document finds that West Swanzey Village retains integrity of location, setting, design, materials, workmanship, feeling and association with important historic contexts in the history of the community and is eligible for listing under two of the three main criteria used to determine National Register eligibility. The document is considered a draft which will be reviewed with DHR in the coming weeks.

We have also completed a preliminary survey of the area for archeological resources. Victoria Bunker, Inc., (Archeological Consultants) have completed a draft report which includes a review of the river more than five miles upstream of the dam to the Keene municipal boundary. Field investigations have included a walkover inspection of the project segment including the Homestead Dam and Thompson Covered Bridge as well as shoreline inspection of the river by boat.

The preliminary study indicates that the project study area is highly sensitive for archeological resources. Artifacts or features associated with a wide range of past activities, settlement and land uses may be present along the river which would preserved in archeological contexts dateable to both pre contact and historic time periods. Native American sites are expected to occur on terraces adjacent to the Ashuelot River which might contain artifacts or features dateable to as early as 10,000 years ago. The draft report also speculates that, while time and erosion may have erased portions of the Native American Swanzey Fish Dam, other elements are expected to be preserved which might be helpful in reconstructing past environmental conditions and human ecology. Additionally, the Bunker report finds that archeological remains of historic period sites, particularly in the vicinity of the dam, are expected to be related to domestic, transportation or industrial activities dateable between the 1730s and early 1900s. The report recommends continued archeological survey for any segments of the proposed project area to be impacted by any alternative designs or activities.

Other Issues

Our structural engineering team has followed up on suggestions received at the project's first Public Informational Meeting (PIM) which was held in May. Specifically, VHB engineers have coordinated with the NH Department of Transportation and have obtained plans and inspection reports for both the Cresson Bridge on the mainstem of the river and the Carleton Bridge on the South Branch. While we are continuing to refine modeling of the river, our initial review indicates that the project will not have any detectable effect on the Carleton Bridge, which was a concern raised at the PIM. We are planning to address the issue fully in the draft feasibility report.

We have conducted several additional field reviews to identify resources in the river such as adjacent floodplain forests, invasive species, recreational resources, and abutting structures. We have also collected data on the geomorphologic setting of the river which will be useful to understand how the river would respond dam removal or other alternatives. Currently, we are putting this information together in an effort to provide a full description of the river it environmental and cultural setting.

We are planning a major field effort in early August to complete a full technical inspection of the dam as well to complete our geomorphologic characterization. And, we will be developing conceptual plans for each of the possible alternatives that were discussed at the Public Informational Meeting in May. Note that we have attached a copy of the full meeting notes for your review.